



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/805,039

03/19/2004

Kenneth Allen Poppleton

144021

7963

7590

06/23/2005

Dean D. Small  
Armstrong Teasdale LLP  
Suite 2600  
One Metropolitan Square  
St. Louis, MO 63102

EXAMINER

SUCHECKI, KRISTYNA

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/805,039

Applicant(s)

POPPLETON, KENNETH ALLEN

Examiner

Krystyna Suchecki

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pradere (US 6,194,700).

3. Regarding Claim 1, Pradere teaches a method for calibrating an X-ray imaging system, said method comprising: generating a calibration image within an X-ray imaging system (Column 5, lines 25-54 and Column 6, line 66- Column 7, line 34); and determining an image distortion of the X-ray imaging system based upon the calibration image for calibrating the X-ray imaging system (Column 7, lines 30-34).

4. Regarding Claim 2, Pradere teaches a method in accordance with claim 1 further comprising calibrating the X-ray imaging system using the calibration image (Column 6, line 66- Column 7, line 34).

5. Regarding Claim 3, Pradere teaches a method in accordance with claim 2 wherein the calibrating is performed after one of determining a change in an external source [magnetic field] causing distortion and moving the X-ray imaging system [from a magnetic field isolation room to a patient imaging room] (Column 6, line 66- Column 7, line 34).

Art Unit: 2882

6. Regarding Claim 4, Pradere teaches a method in accordance with claim 1 wherein the X-ray imaging system comprises an image intensifier (Column 1, lines 9-14) and the generating is performed within the image intensifier (Figure 2).

7. Regarding Claim 5, Pradere teaches a method in accordance with claim 1 further comprising measuring an output image generated based upon the calibration image to determine the image distortion (Column 6, line 66- Column 7, line 34).

8. Regarding Claims 6 and 7, Pradere teaches a method in accordance with claim 1 wherein the calibration image comprises a pattern comprising one of a grid, a plurality of dots and a pattern of shapes (via elements 33, 32; Column 4, line 41- Column 6, line 4).

9. Regarding Claims 8 and 9, Pradere teaches a method in accordance with claim 1 wherein the generating a calibration image comprises generating a light pattern or a non-x-ray pattern (Column 4, line 41- Column 6, line 4).

10. Regarding Claim 10, Pradere teaches a method in accordance with claim 1 wherein the determining comprises comparing the calibration image to an output image to determine the image distortion (Column 6, line 66- Column 7, line 34).

11. Regarding Claim 11, Pradere teaches a method in accordance with claim 1 wherein the calibration is performed in connection with a mobile X-ray imaging system to compensate for changes in non-uniform magnetic fields (Column 3, lines 1-14; and via motion between magnetic isolation and patient testing areas, Column 6, line 66- Column 7, line 34).

12. Regarding Claim 12, Pradere teaches a method in accordance with claim 1 further comprising compensating for the image distortion (Column 6, line 66- Column 7, line 34).

Art Unit: 2882

13. Regarding Claim 13, Pradere teaches a method in accordance with claim 1 wherein the X-ray imaging system comprises a calibration image source (30) within an image intensifier for generating the calibration image within the image intensifier, the calibration image source positioned within the image intensifier generally at an end of the image intensifier that is closer to an output window than to an input window (Figure 2 and Column 5, lines 25-54).

14. Regarding Claim 14, Pradere teaches a method for determining distortion in an X-ray imaging system, said method comprising: generating a light pattern within an image intensifier of an X-ray imaging system; comparing an output pattern produced by the image intensifier based on the light pattern; and determining a distortion in the output pattern based upon the comparison (Column 6, line 66- Column 7, line 34).

15. Regarding Claim 15, Pradere teaches a method in accordance with claim 14 further comprising compensating for the distortion (Column 7, lines 30-34).

16. Regarding Claim 16, Pradere teaches a method in accordance with claim 14 wherein the light pattern comprises one of a measurable and identifiable pattern (Figures 3a-4b and Column 6, line 66- Column 7, line 34).

17. Regarding Claim 17, Pradere teaches a method in accordance with claim 14 wherein the image intensifier comprises a calibration image source having at least one laser light source (30) for generating the light pattern (Column 5, line 25- Column 6, line 4).

18. Regarding Claim 18, Pradere teaches a method in accordance with claim 17 wherein the laser light source comprises a grating (Figures 3a-4b) for creating the light pattern.

19. Regarding Claim 19, Pradere teaches a system for determining distortion within an X-ray imaging device, said system comprising: a calibration image source (30) within an image

Art Unit: 2882

intensifier configured to generate a calibration image for use in determining distortion within the X-ray imaging device (Figure 2 and Column 6, line 66- Column 7, line 34).

20. Regarding Claim 20, Pradere teaches a system in accordance with claim 19 wherein the calibration image comprises a pattern (Figures 3a-4b).

21. Regarding Claim 21, Pradere teaches a system in accordance with claim 19 wherein the calibration image source (30) is positioned within the image intensifier generally at an end of the image intensifier that is closer to an output window than to an input window, and directed generally towards the input window (Figure 2).

22. Regarding Claim 22, Pradere teaches a system in accordance with claim 19 wherein the X-ray imaging system comprises a mobile X-ray imaging system (Column 3, lines 1-14; and via motion between magnetic isolation and patient testing areas, Column 6, line 66- Column 7, line 34).

### ***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents to Quadflieg (US 6,086,252) and Finkler (US 6,028,314) are of interest for teaching image intensifier correction methods using light sources. Patent to Vieux (US 4,960,608) is of interest for teaching an image intensifier with a light source inside the image intensifier cavity for layer characteristics determination. Edgerton (US 4,525,376) is of interest for teaching a light source in a deposition cavity for interaction with a layer in the cavity to determine the characteristics of the layer.

Art Unit: 2882

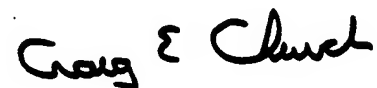
24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495.

The examiner can normally be reached on M-F, 9-5.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
KS



Craig E. Church  
Primary Examiner